a second computing element for computing at least one of phase and amplitude of a heterodyne beat signal produced by said test interferometer, and

a third computing element for computing a group delay based on the phase computations of the first and the second computing elements.

REMARKS

Favorable reconsideration of this application, as currently constituted, is respectfully requested. Applicant has amended claim 8 to claim novel aspects of the invention worthy of patentability. Applicant respectfully points out that the amendment does not narrow claim 8, but instead is meant to cover additional allowable subject matter.

It is believed that the claim changes do not raise any issue of new matter because the changes are fully supported by the originally filed specification. Applicants respectfully request the thorough and complete examination of this application and earnestly solicit an early Notice of Allowance.

Respectfully submitted,

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EXHIBIT 'A' - CLAIMS MARKED TO SHOW CHANGES

8. (Amended) The system according to claim 7, wherein said computing unit includes:

a first computing [unit] element for computing at least one of phase and amplitude of a heterodyne beat signal produced by said reference interferometer,

a second computing [device] element for computing at least one of phase and amplitude of a heterodyne beat signal produced by said test interferometer, and

a third [interferometer] computing element for computing a [the] group delay based on the phase computations of the first and the second [interferometers] computing elements.

EXHIBIT "B" - PENDING CLAIMS

1. A system for measuring optical characteristics of an optical device under test (DUT), said system comprising:

a light source for generating an optical signal applied to the optical DUT;

a reference interferometer and a test interferometer, said interferometers being optically coupled to said light source; and

a computing unit coupled to said interferometers, said computing unit utilizing amplitude and phase computational components to aid in the determination of optical characteristics of the optical DUT.

2. The system according to claim 1, wherein the amplitude and phase computational components are orthogonal filters.

3. The system according to claim 1, wherein the optical characteristics include at least one of the following:

a reflective transfer function,

a transmissive transfer function, and

group delay.

4. The system according to claim 1, wherein said light source is a tunable laser source.

5. The system according to claim 1, wherein the computing unit further computes an amplitude and a phase of a heterodyne beat signal produced by said test interferometer.

6. The system according to claim 1, wherein said reference interferometer is non-dispersive or dispersion compensated.

7. The system according to claim 1, wherein the orthogonal filters are applied to a signal produced by at least one of the test or reference interferometers.

8. (Amended) The system according to claim 7, wherein said computing unit includes:

a first computing element for computing at least one of phase and amplitude of a heterodyne beat signal produced by said reference interferometer,

a second computing element for computing at least one of phase and amplitude of a heterodyne beat signal produced by said test interferometer, and

a third computing element for computing a group delay based on the phase computations of the first and the second computing elements.

9. The system according to claim 1, wherein the orthogonal filters are performed by at least one of the following:

in-phase and quadrature filters in the time domain,

in-phase and quadrature filters in the frequency domain,

a single sided filter, and

an all-pass filter using a Hilbert transform.

10. A method for measuring optical characteristics of an optical device under test (DUT), said method comprising:

generating a light signal;

transmitting the light signal on an optical test interferometer;

receiving a reference signal and a test optical signal, the reference optical signal being generated by test interferometer; and

computing the optical characteristics of the optical DUT by utilizing at least one amplitude and phase computational component.

11. The method according to claim 10, wherein the amplitude and phase computation component is a pair of orthogonal filters.

12. The method according to claim 10, wherein the optical characteristics include at least one of the following:

a reflective transfer function,

a transmissive transfer function, and

group delay.

13. The method according to claim 10, wherein the reference and test signals are heterodyne beat signals.

14. The method according to claim 10, wherein the light source is a tunable laser source.

15. The method according to claim 10, wherein said computing the optical characteristics further includes computing amplitude and phase of at least one heterodyne beat signal.

16. The method according to claim 10, wherein the reference interferometer signal is non-dispersive or compensated for dispersion.

17. A system for measuring optical characteristics of an optical component, said system comprising:

means for illuminating the optical component with an optical signal;